



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 09/554,025 | 06/15/2000 | CHRISTOPH DORR | TRW(EHR4846 | 6556 |
| 26294 | 7590 | 04/07/2004 | EXAMINER | |
| TAROLLI, SUNDHEIM, COVELL & TUMMINO L.L.P. 526 SUPERIOR AVENUE, SUITE 1111 CLEVEVLAND, OH 44114 | | | GARCIA, ERNESTO | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 3679 | |

DATE MAILED: 04/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|------------------------|---------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 09/554,025 | DORR, CHRISTOPH |
| | Examiner | Art Unit |
| | Ernesto Garcia | 3679 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 05 January 2004.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 11,13,14,16-18 and 20-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) 16,17 and 22-25 is/are allowed.
- 6) Claim(s) 11,13,20,21,26 and 27 is/are rejected.
- 7) Claim(s) 14 and 18 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____. | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 20 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Graham et al., 2,424,455 (see marked-up copy).

Regarding claim 20, Graham et al. disclose, in Figure 1, a ball-and-socket joint comprising a joint pin **15**, a bearing shell **13a**, a joint housing **10**, and a metal ring **12**. The joint pin **15** has a joint ball **15a**. The housing **10** has a closed end **A11** and an open end **A12**. The examiner has taken a broad interpretation of closed end as the disk **16** closes an end of the housing **10** thus the housing has a closed end. The open end **A12** has an opening **A5**. The ring **12** has a cylindrical portion **12a** protruding from the opening **A5** of the housing **10** and forms a passage through which the bearing shell **13a** is received. An inside diameter **A32** of the ring **12** comprises a guide surface **A14**. The ring **12** also has an end segment **12d** bent radially inwardly. The end segment **12d** secures the bearing shell **13a** within the housing **10**.

The bearing shell **13a** is for supporting the joint ball **15a** that is rotatable and, to a limited extent, tiltable relative to the bearing shell **13a**. The housing **10** is for supporting the bearing shell **13a**. The opening **A5** is for receiving the bearing shell **13a**. The guide surface **A14** is for engaging and receiving an outside diameter of the bearing shell **13a** and for guiding the bearing shell **13a** into the housing **10** through the passage. The examiner has given limited patentable weight to the method of bending the end segment **12d** after the bearing shell **13a** is received in the housing **10** as this process is not germane to the issue of patentability of the device itself. Therefore, this limitation has been given limited patentable weight. See MPEP ' 2113.

Regarding claim 21, the ring **12** further includes a radially outwardly extending flange portion **12b** extending into and embedded in the housing **10**. The ring **12** is for anchoring the ring **12** within the housing **10**.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 11, 13, 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Graham et al., 2,424,455, in view of Pazdirek et al., 5,609,433.

Regarding claim 11, Graham et al. disclose, in Figure 1, a ball-and-socket joint having a joint pin 15, a joint housing 10, a bearing shell 13a, and a metal ring 12. The joint pin 15 is provided with a joint ball 15a. The bearing shell 13a is inserted into the housing 10. The bearing shell 13a has an open end portion 13d and a support portion 13b. The joint pin 15 extends through the open end portion 13d. The support portion 13b contacts and supports the joint ball 15a. The ring 12 has a radially outwardly angled flange 12b embedded in the housing 10. The ring 12 has a radially inwardly bent end segment 12d located in an area A15 of an opening A5 in the housing 10. The radially inwardly bent end segment 12d abuts the open end portion 13d of the bearing shell 13a and secures the bearing shell 13a within the housing 10. An inside diameter A32 of a cylindrical center part 12a of the ring 12 corresponds to an outside diameter A33 of the bearing shell 13a. The bearing shell 13a is for a rotatable-and-tiltable support of the joint ball 15a. The ring 12 is for positively locking the bearing shell 13a within the housing 10. The area A15 of the opening A5 is provided for passage of the joint pin 15.

However, Graham et al. fails to disclose the housing 10 being made of plastic and the bearing shell 13a being a one-piece member. Pazdirek et al. teach, in Figure 2, a ball-and-socket joint having a joint housing 12 made of plastic, thus a plastic joint housing, and a bearing shell 36 being a one-piece member. The housing is made of

plastic to make the joint by making the housing insert molded around the bearing shell and the joint pin and to make the joint light weight (col. 4, lines 44-46). Pazdirek et al. does not explain the reason for making the bearing shell as a one-piece member. However, it appears that making the bearing into a one-piece is part of a design choice for snapping the ball into the bearing shell instead of a two-piece part. Therefore, as taught by Pazdirek et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the housing from plastic to make the joint light weight and make the bearing shell into a one-piece member to allow the ball of a joint pin to snap in place.

Regarding claim 13, the flange **12b** protrudes at an approximately 90 degree angle from the cylindrical center part **12a** of the ring **12**.

Regarding claim 26, as modified above, the ring **12** protrudes outwardly of the housing **10** such that the radially inwardly bent end segment **12d** is spaced away from the housing **10** in the area **A15** of the opening **A5** of the housing **10**. The open end portion **13d** of the bearing shell **13a** also protruding outwardly of the housing **10** and being secured relative to the housing **10** by the radially inwardly bent end segment **12d**.

Regarding claim 27, Graham et al. discloses, in Figure 1, a ball-and-socket joint comprising a joint pin **15**, a joint housing **10**, a bearing shell **13a** and a metal ring **12**. The joint pin **15** is provided with a joint ball **15a**. The bearing shell **13a** is inserted into

the housing **10**. The ring **12** has a radially outwardly angled flange **12b** embedded in the housing **10**. The ring **12** has a radially inwardly bent end segment **12d** located in an area **A15** of an opening **A5** in the housing **10**. The radially inwardly bent end segment **12d** secures a position of bearing shell **13a** within the housing **10**. An inside diameter **A32** of a cylindrical center part **12a** of a ring **12** corresponds to an outside diameter **A33** of the bearing shell **13a**. However, the joint housing **10** is not made of plastic. Pazdirek et al. teach, in Figure 2, a ball-and-socket joint having a joint housing **12** made of plastic, thus a plastic joint housing to make the joint by making the housing insert molded around the bearing shell and the joint pin, and to make the joint light weight (col. 4, lines 44-46).

The bearing shell **13a** is for a rotatable-and-tiltable support of the joint ball **15a**. The ring **12** is for positively locking the bearing shell **13a** within the housing **10**. The area **A15** of the opening **A5** is provided for passage of the joint pin **15**.

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Graham et al., 2,424,455, in view of Pazdirek et al., 5,609,433, as applied to claim 11 above, and further in view of Kindel, 3,530,495.

Regarding claim 18, Graham et al., as modified above, fail to disclose the housing **10** provided with a ring groove in the area **A15** of the opening **A5** of the housing **10**. Kindel teaches, in Figure 2, a housing **1** provided with a ring groove (near

ref. 12) in an area of an opening of the housing 1 to hold an annular elastic bellows via a resilient ring (col. 3, lines 1-5). Therefore, as taught by Graham et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a ring groove to allow holding of an annular elastic bellows via a resilient ring.

Allowable Subject Matter

Claims 16, 17 and 22-25 are allowed.

Claims 14 and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

regarding claims 14 and 22, the prior art of record does not disclose or suggest a ball-and-socket joint comprising a radially outwardly extending flange portion of a metal ring extending into the joint housing at a location near an equator of a joint ball of a joint pin;

regarding claims 18 and 23, the prior art of record does not disclose or suggest a ball-and-socket joint comprising a ring groove on a joint housing located radially

outwardly of a cylindrical portion of the ring; the British patent 1,067,426 teaches a groove located radially outwardly of a cylindrical portion but there's no reason to combine this feature with the joint housing of Graham et al. because the threaded stem 10a will not permit placement of a groove located radially outwardly of the cylindrical portion of the housing;

regarding claim 24, the prior art of record does not disclose or suggest a ball-and-socket joint comprising a metal ring having a radially outwardly angled flange that is extrusion-coated with material of a joint housing;

regarding claim 25, the arguments presented on 1/5/04 are persuasive; Pazdirek et al. '689 teaches that plastic is required on both sides of the metal ring at a cylindrical portion; and,

regarding claim 13, this claim depends from claim 24.

Response to Arguments

Applicant's arguments with respect to claims 11, 20, 21 and 26 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ernesto Garcia whose telephone number is 703-308-8606. The examiner can normally be reached from 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne H Browne can be reached on 703-308-1159. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9326 for regular communications and 703-872-9327 for After Final communications. Any inquiry of a general nature or relating to the status of this

Application/Control Number: 09/554,025
Art Unit: 3679

Page 10

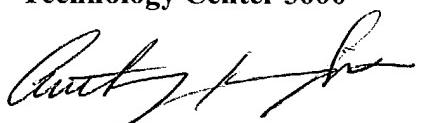
application or proceeding should be directed to the receptionist whose telephone number is 703-308-2168.

Lynne H. Browne
Supervisory Patent Examiner
Technology Center 3600

E.G.

March 30, 2004

Attachment: one marked-up copy of Graham et al., 2,424,455.



Anthony Knight
Supervisory Patent Examiner
Group 3600

2,424,455 (Graham et al.)

